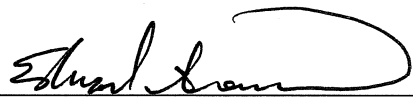


# *Quality Management Office*

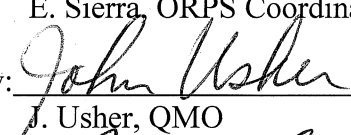
## **Brookhaven National Laboratory**

### **Quarterly Performance Report**

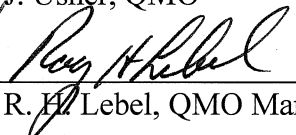
**2nd Quarter FY 2007  
(05/18/07)**

Prepared by:   
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Date: 5/18/07

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Date: 5/21/07

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## I. Executive Summary

This report is the fourteenth edition of the Quarterly Performance Report and covers the second quarter of FY 2007. It is developed and issued by the Brookhaven National Laboratory (BNL) Quality Management Office, as required by Department of Energy (DOE) Order 231.1A, *Environment, Safety and Health Reporting*. The purpose of this report is to ensure that recurring events are identified. Events identified as recurring are processed in a Significance Category “R” recurring occurrence report.

During the second quarter of FY 2007, the Quality Management Office reviewed issues and/or potential issues from the following documented sources:

- Occurrence Reports;
- Significance Category BNL events/conditions
- Non-reportable (ORPS) events/conditions;
- Radiological Awareness Reports (RARs);
- Nonconformances.

Analysis of the data for the second quarter of FY 2007 indicates that a recurring occurrence report is not warranted.

### New Area Requiring Attention

**Safety Evaluation Report (SER) Issues:** On December 4, 2006, Occurrence Report EM-BHSO-BNL-HFBR-2006-0002, “Failure to maintain configuration control of DOE-SER specified Authorization Basis Manual documents” was initiated. A deficiency involving Safety Evaluation Report (SER) issues at Environmental Restoration Projects was previously reported in ORPS. The issues were believed to have been corrected; however, inadequate configuration control of the High Flux Beam Reactor (HFBR) Authorization Basis Documents (ABDs) identified that this is an area that requires additional attention.

### Areas Requiring Continued Attention

**Material Handling:** Occurrence Report CH-BH-BNL-BNL-2004-0005, “Recurring Material Handling Problems,” issued March 25, 2004.

**Railcar Events:** Occurrence Report EM-BH-BNL-BNL-2005-0009, “Recurring Railcar Events,” issued on August 10, 2005.

## II. Introduction

The ORPS Program is intended to: (1) ensure the timely collection, reporting, analysis, and dissemination of information on environmental, safety, and health issues, and (2) ensure the Department of Energy (DOE) and National Nuclear Security Administration (NNSA) are informed of events that could adversely affect the health and safety of the public or workers, the environment, the intended purpose of DOE facilities, or the credibility of DOE. The Quarterly Performance Report is performed to identify possible recurring program deficiencies and describe ORPS program activities at the Laboratory.

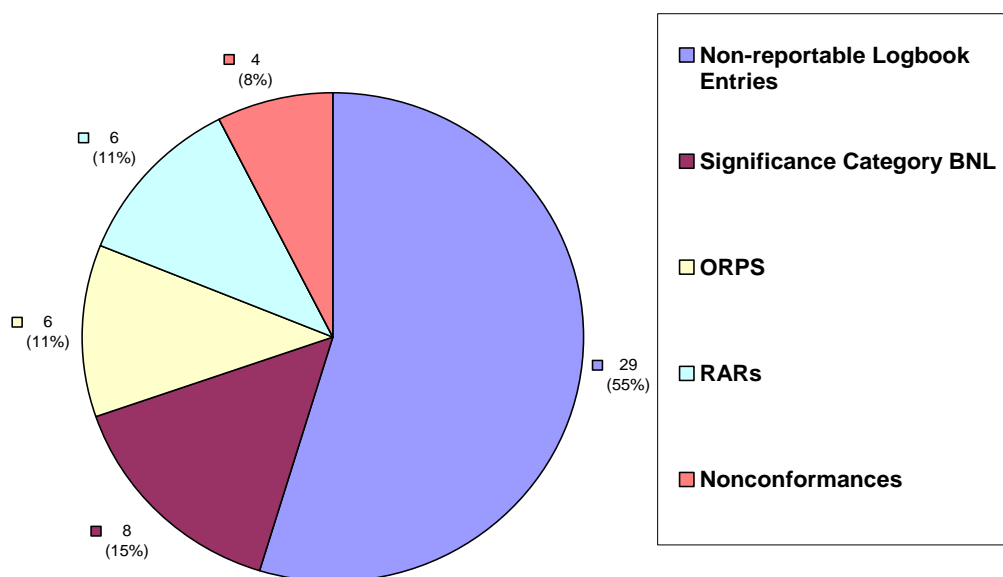
If a recurring program deficiency is identified, it is reported to DOE via a Significance Category “R” recurring occurrence report. Section III of this report includes a summary of the documents reviewed, performance analysis of the issues/events reviewed and other data. Section IV summarizes the ORPS Program activities for the second quarter of FY 2007. Section V summarizes Areas Receiving Continued Attention.

### III. Performance Analysis

The following exhibits provide a summary of the issues reviewed for the second quarter of FY 2007, including a summary of the documents reviewed and trend analysis.

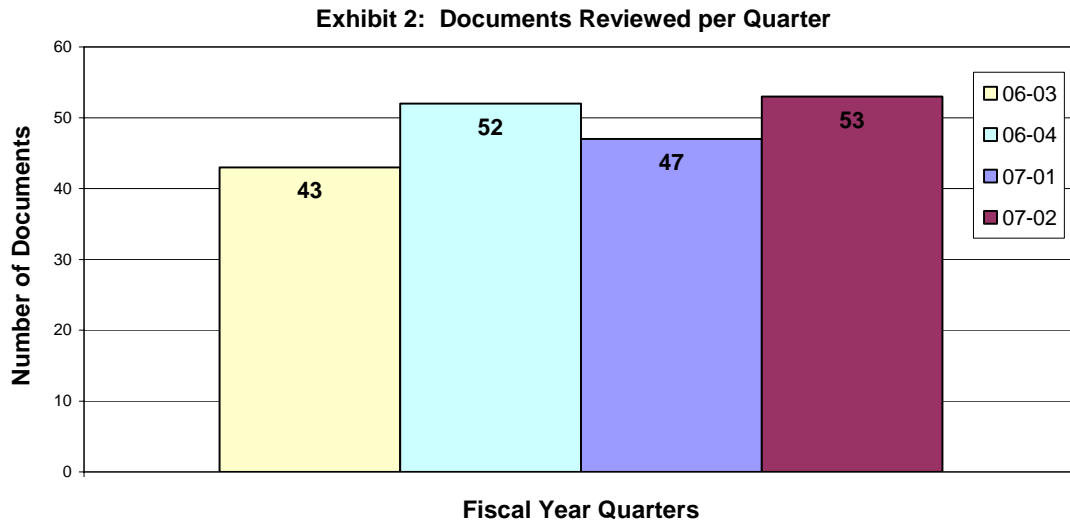
#### A. Document Review Summary:

Exhibit 1: Documents Reviewed for 2nd Quarter FY 2007 Performance Analysis

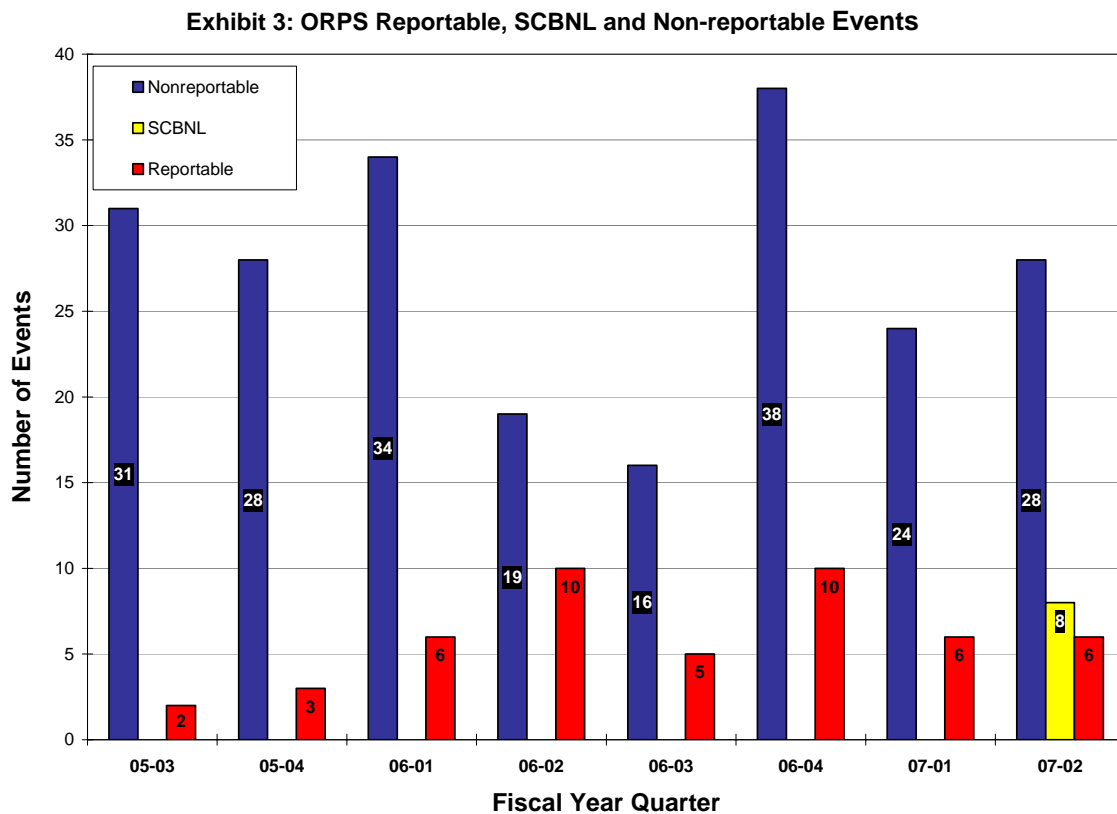


**Exhibit 1** indicates 53 documents were reviewed for the second quarter performance analysis of FY 2007. Approximately 55% of the documents reviewed were ORPS nonreportable logbook entries made by the eight BNL on-call Event Categorizers.

**Note:** The eight BNL Event Categorizers are a cadre of volunteer senior personnel who have received significant training on the reporting criteria of DOE Manual 231.1-2, *Event Reporting and Processing of Operations Information*. They are on a rotating schedule and available 24 hours a day, 7 days a week to determine event reportability. Each determination that a categorizer renders is logged with justification. It is important that BNL staff draw upon the categorizer’s expertise shortly after event/condition discovery so that a timely, accurate, and consistent determination of ORPS reportability is rendered.



**Exhibit 2** depicts the number of documents reviewed per quarter. On average, 49 documents per quarter were reviewed.



**Exhibit 3** shows the number of ORPS reportable events, Significance Category BNL events and non-reportable events over the last eight quarters.

**Note:** Significance Category BNL (SCBNL) events are low impact events/conditions, which are categorized based on BNL developed criteria. A SCBNL event does not initiate

a DOE Occurrence Report. SCBNL occurrences are investigated and appropriate action(s) are implemented to minimize the risk of recurrence per the BNL Event/Issues Management subject area.

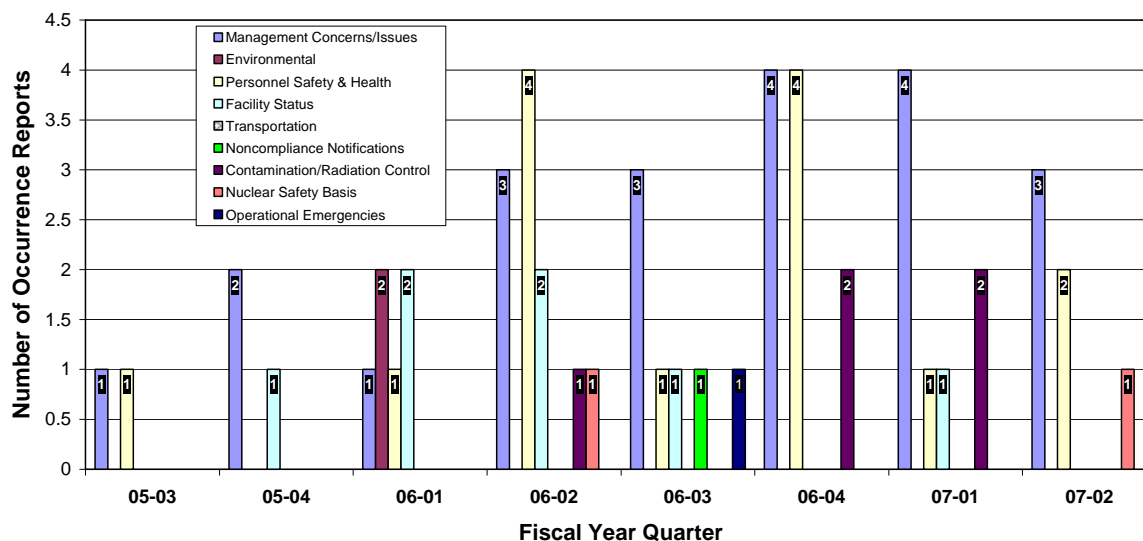
### ORPS Reportable Events/Conditions – 2nd Quarter FY 2007

1. SC--BHSO-BNL-BNL-2007-0001, Security Patrol Officer Injures Knee
2. SC--BHSO-BNL-BNL-2007-0003, Copper Sheets Pin Worker Against Work Bench
3. SC--BHSO-BNL-BNL-2007-0004, Irritant in Air from Cleaning Floor Tile - Bldg 400 Lobby
4. SC--BHSO-BNL-BNL-2007-0005, Employee Grazed by Truck
5. SC--BHSO-BNL-BNL-2007-0006, PISA and USQ for DOE review of Waste Management Facility Documented Safety Analysis and potentially unanalyzed hazards
6. SC--BHSO-BNL-PE-2007-0001, Employee Fractures Rib During Pick-up Truck Lift Gate Operation

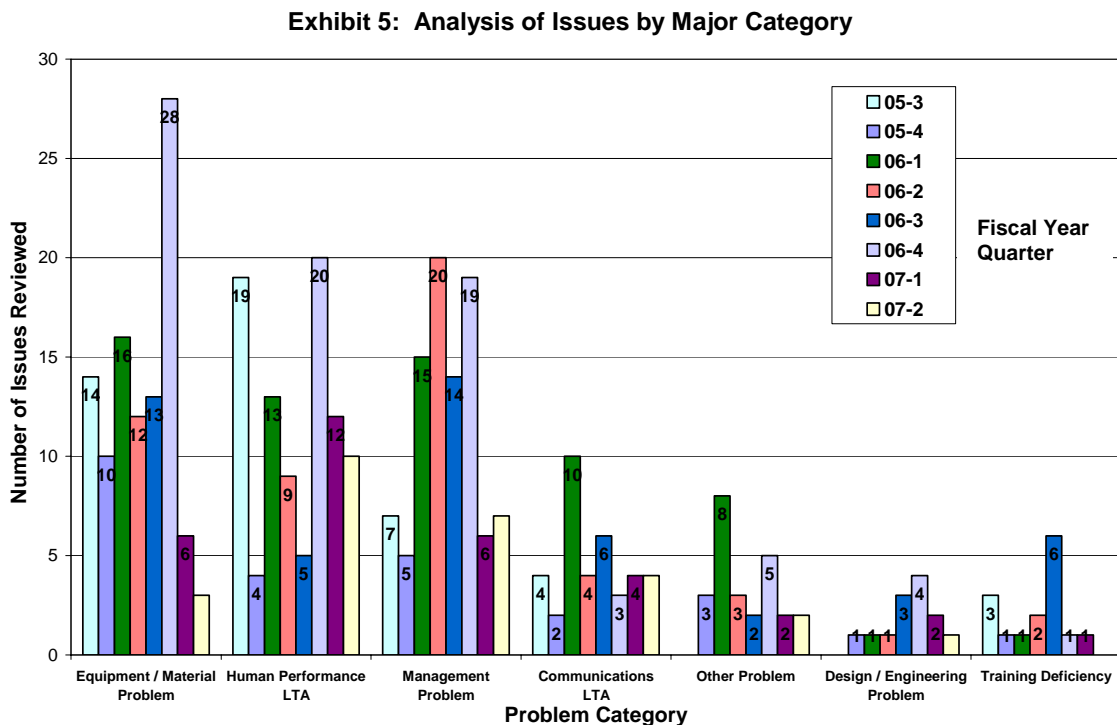
### SCBNL Events/Conditions – 2nd Quarter FY 2007

1. Abandoned couch on fire - North Firebreak
2. Minor Electrical Fire in Building 1007-W
3. Torn ligament on left thumb from moving boxes for office relocation
4. Overheated Bearing on Main Magnet Water Supply Pump
5. Small brush fire
6. Smoldering debris near Cooling Tower #4 by B912A
7. Plumber Injures Tooth
8. B-197 evacuation due to fire alarm

**Exhibit 4: Distribution of ORPS Reports by Reporting Criteria**



**Exhibit 4** shows the number of BNL ORPS reports coded by ORPS reporting criteria, for each of the last eight quarters. No adverse trend is noted.



**Exhibit 5** is a trend of ORPS cause codes per quarter during last eight quarters. The associated issues were reviewed and apparent cause codes were assigned from the ORPS Causal Analysis Tree in DOE Guide 231.1-2, *Occurrence Reporting Causal Analysis Guide*. Some issues were assigned more than one cause. No adverse trend is noted.

**Note:** The following are the definitions of the cause codes as defined by the DOE Guide 231.1-2, *Occurrence Reporting Causal Analysis Guide*:

- An equipment/material problem is defined as an event or condition resulting from the failure, malfunction, or deterioration of equipment or parts, including instruments or material.
- Human performance less than adequate refers to an event or condition resulting from the failure, malfunction, or deterioration of the human performance associated with the process. This category is intended for individual actions or lack thereof.
- Management problem refers to an event or condition that could be directly traced to managerial actions or methodology (or lack thereof). A “management” problem can be attributed to management methods (directions, monitoring, assessment, accountability, and corrective action), inadequate

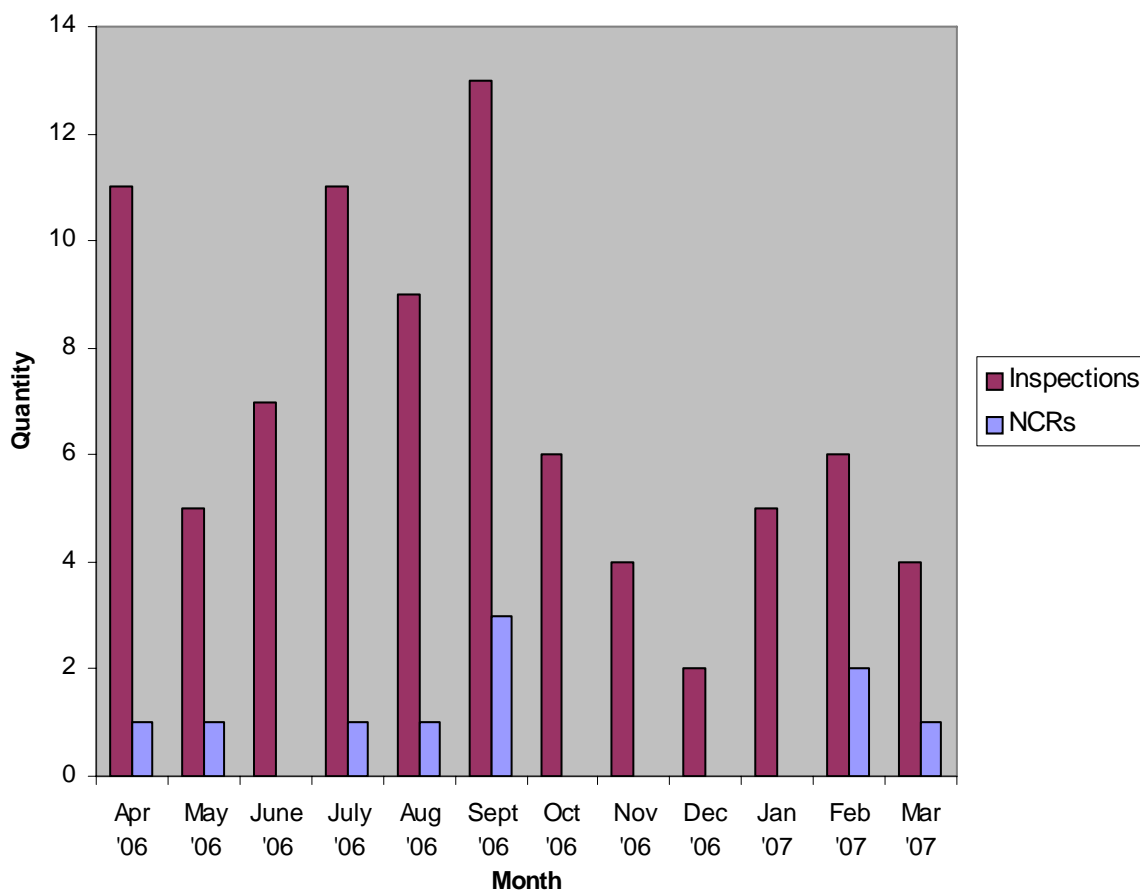
resource allocation, work organization and planning, supervisory methods, and/or change management practices.

- Other problems include problems caused by factors beyond the control of the organization (i.e., legacy radiological or hazardous material).
- Communications less than adequate refers to inadequate presentation or exchange of information.
- A design/engineering problem is an event or condition that can be traced to a defect in design or other factors related to configuration, engineering, layout, tolerances, or calculations.
- Training deficiency refers to an event or condition that could be traced to a lack of training or insufficient training to enable a person to perform a desired task adequately.

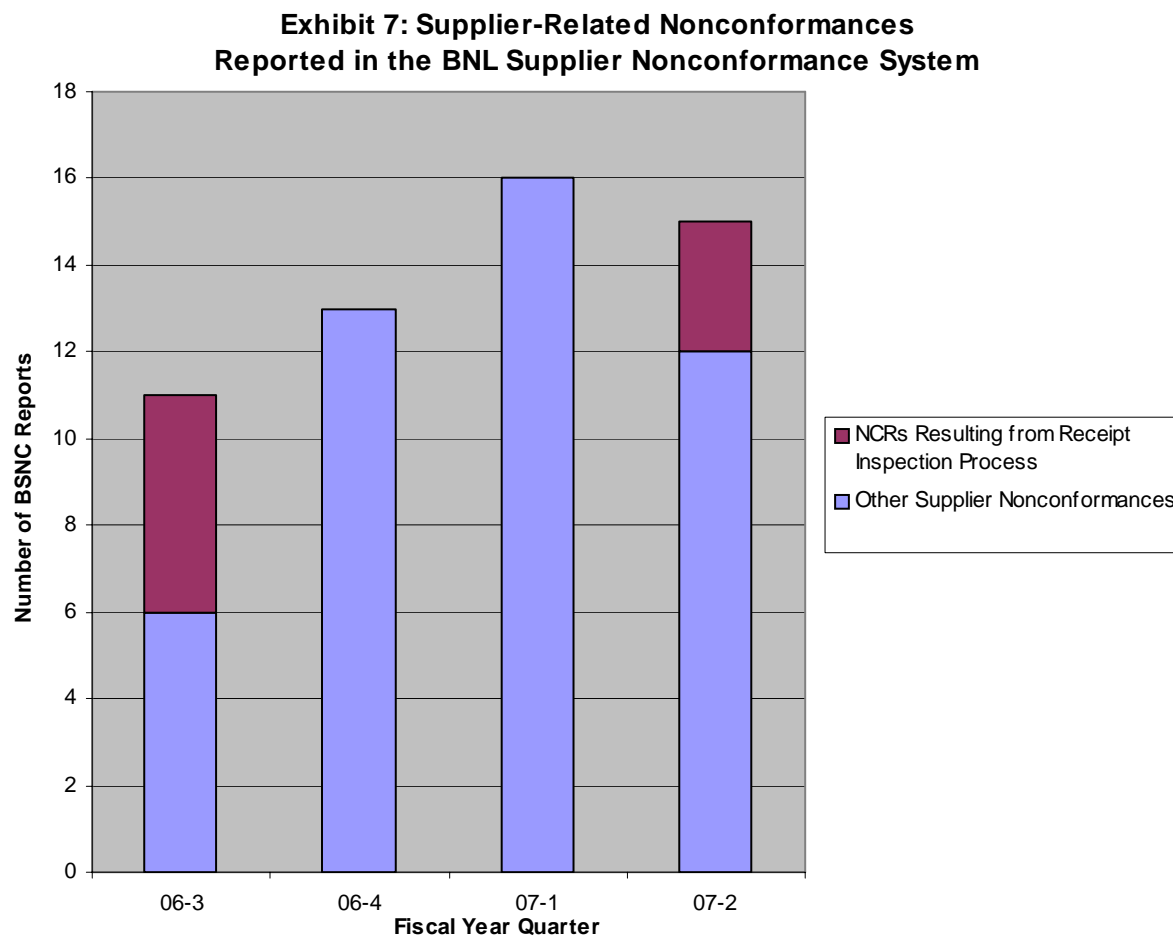


**B. Procurement Quality:**

**Exhibit 6: Receiving Inspection Activity  
For All A1/A2 or >\$100K Procurements**



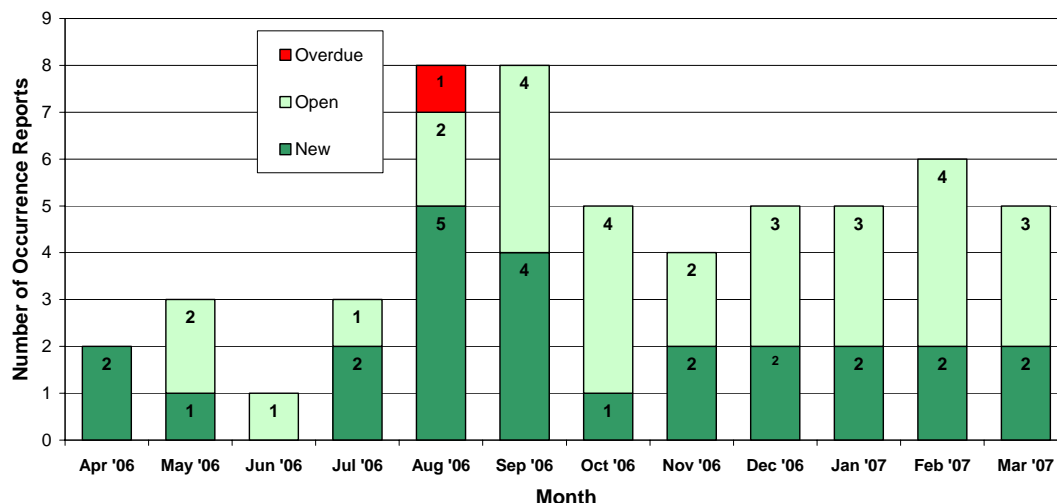
**Exhibit 6** shows the results of receipt inspections over the past year. Twelve percent of the inspections performed have identified a nonconformance. No adverse trend is noted.



**Exhibit 7** shows the web-based BNL Supplier Nonconformance Reporting and Tracking System activity over the last four quarters. No adverse trend is noted.

## IV. ORPS Activities

**Exhibit 8: BNL ORPS Report (End of Month) Trend**



**Exhibit 8** depicts the ORPS Report trend for the last 12 months. Reports are shown in various states to include: in progress (open), new report issued and Final Report overdue to DOE. No adverse trend is noted. The following three reports (dating back to 1999) are still awaiting approval by DOE Program Managers:

- SO-CH-BH-BNL-BNL-1999-0021, “Liquid Nitrogen Dewar Overpressure”
- NE-CH-BH-BNL-BNL-2001-0030, “Misclassification of Radioactive Material Shipped Offsite”
- NE-CH-BH-BNL-BNL-2003-0003, “Receipt of Radioactive Material Shipment exceeds 49 CFR 173.443 Package Contamination Limits”

The following is a summary of the BNL’s ORPS Coordinator’s significant activities during the second quarter of FY 2007:

- Attended Effectively Facilitating Fact-Finding Meetings training (01/10-11/07)
- Researched and presented “Material Handling at BNL: The Past, Present & Future?” to BNL management (01/30/07)
- Attended PE174 - Coaching and Counseling for Supervisors, Managers and Just About Anyone (2/15/07)
- Issued Quarterly Performance Report, 1st Quarter FY 2007 (02/22/07)
  - The Material Handling Program and Railcar Operations were identified as areas needing continuing attention.
- Attended PE175 - Multi-Tasking in a Time-Challenged World (03/13/07)

## V. Lessons Learned Activities

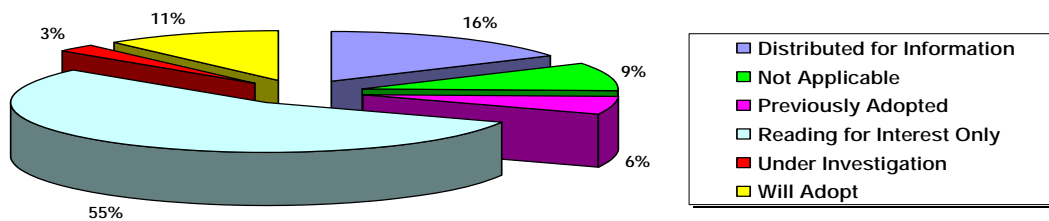
Four Lessons Learned (LL) Communications received from the DOE LL subscription service were posted on the BNL LL web site during the second quarter of FY 2007.

- Round Sling Inspection, PPPL-2007-CH-01 (3/05/07)
- Knowledgeable Personnel Should Not Be Substituted for Procedures, 2006-RL-HNF-0047 (3/05/07)
- Non-NRTL Listed Power Strips Pose Shock and Fire Hazard, 2007-SSO-SNL-10322-01 (3/05/07)
- Evaluate Hazards When Introducing New Equipment, 2006-RL-HNF-0042 (3/05/07)

One BNL generated Lessons Learned Communication was submitted to the BNL subscription service for distribution and placed on the BNL LL web site.

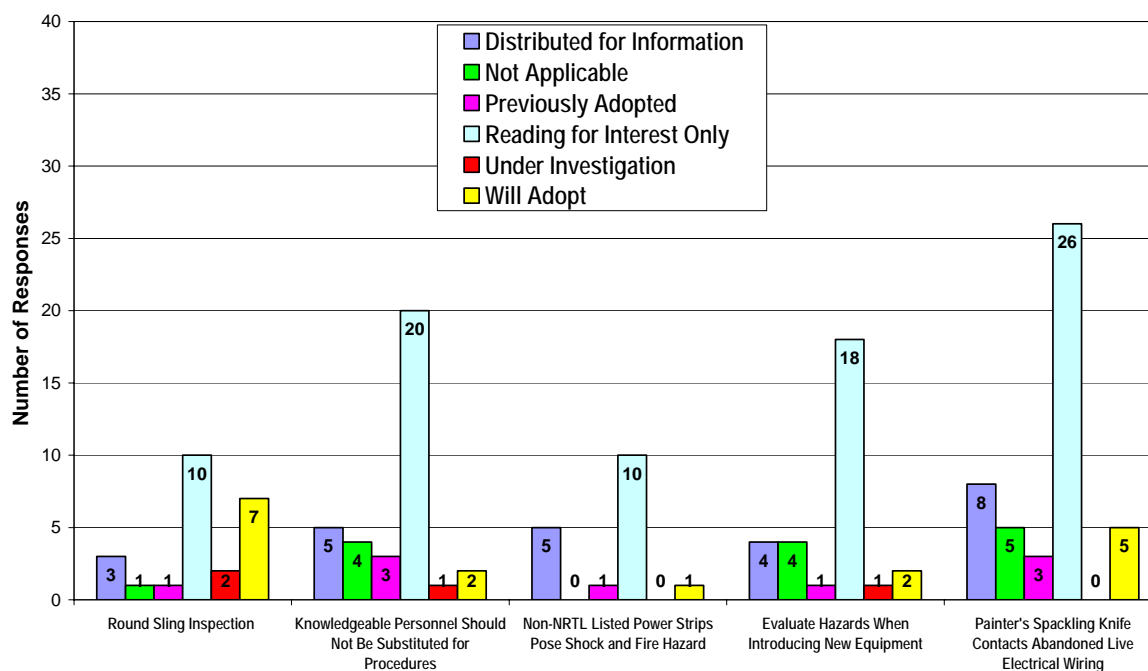
- Painter's Spackling Knife Contacts Abandoned Live Wiring, DJ-2007-01 (3/19/07)

**Exhibit 9: Lessons Learned Feedback**



**Exhibit 9** is a display of BNL staff feedback received concerning the lessons published during the second quarter of FY 2007.

### Exhibit 10: Lessons Learned Feedback



**Exhibit 10** displays the feedback received for the six lessons published to the BNL LL web site during the second quarter of FY 2007.

## VI. New Area Requiring Attention

**EM--BHSO-BNL-HFBR-2005-0001, “Violation of High Flux Beam Reactor Safety Evaluation Report”** was issued on December 4, 2005. This report identified a weakness in management/administrative controls to assure that SER conditions are clearly communicated, understood and implemented in day-to-day operations. The report includes a total of 11 corrective actions. At completion of this Quarter all corrective actions have been closed. However, a new issue has since been identified and constitutes a new violation of the HFBR SER involving inadequate configuration control of HFBR ABDs. This condition was identified by DOE-BHSO and indicates that previous corrective actions were not fully effective in preventing SER violations. Continued management attention is needed to assure that all corrective actions are tracked to completion as scheduled in the Laboratory ATS and are effective in resolving the noted concerns. A Final ORPS report (EM--BHSO-BNL-HFBR-2006-0002), which addresses this condition was issued on April 27, 2007.

## VII. Area Requiring Continued Attention

**Material Handling:** Recurring material handling problems were reported in the second quarter of FY 2004 in ORPS “R” Report CH-BH-BNL-BNL-2004-0005 and in NTS-CH-BH-BNL-BNL-2004-0002, “Recurring Material Handling Problems.” There was a follow-up assessment conducted by BNL Internal Audit & Oversight (IA&O) during the first quarter FY

2006 to verify effectiveness of corrective actions to this ORPS/NTS Report. Corrective actions to address deficiencies reported in the IA&O corrective action effectiveness review are being tracked in the Assessment Tracking System (ATS). Continued management attention is needed to assure that the six remaining corrective actions from the IA&O follow-up assessment are tracked to completion as scheduled in the Laboratory ATS and are effective in resolving the noted concerns.

**Railcar Events:** On September 29, 2005, a meeting was facilitated by the Laboratory Occurrence Reporting Coordinator to review/discuss the recent history of railcar events at BNL and the path forward concerning occurrence reporting. At this meeting a decision was made by the Environmental Restoration Projects Director (based on frequency and potential consequence) to re-categorize occurrence report EM-BH-BNL-BNL-2005-0009 to an "R" Recurring occurrence report titled "Recurring Railcar Events." The Final occurrence report was issued on January 27, 2006. At completion of this Quarter, six actions have been closed and seven remain open, four of which are past due. Continued monitoring is needed to assure that all corrective actions are tracked to completion as scheduled in the Laboratory ATS and are effective in resolving the noted concerns.

## VIII. References

DOE Guide 231.1-2, *Occurrence Reporting Causal Analysis Guide*, August 2003.

DOE Order 231.1A, *Environment, Safety and Health Reporting*, August 2003.

Nonconformance Tracking System Report Number: NTS-CH-BH-BNL-2004-002, "Recurring Material Handling Problems."

Occurrence Report Number: SC-CH-BH-BNL-BNL-2004-0005, "Recurring Material Handling Problems."

Occurrence Report Number: EM-BH-BNL-BNL-2005-0009, "Recurring Railcar Events"

Occurrence Report Number: EM--BHSO-BNL-HFBR-2006-0002, "Failure to maintain configuration control of DOE-SER specified Authorization Basis Manual documents"

Occurrence Report Number: EM--BHSO-BNL-HFBR-2005-0001, "Violation of High Flux Beam Reactor Safety Evaluation Report"

Quarterly Performance Report, 1st Quarter FY 2007, dated 02/22/07.